Permanent Fertilizer Programs in Corn - Year 9
(19-715)

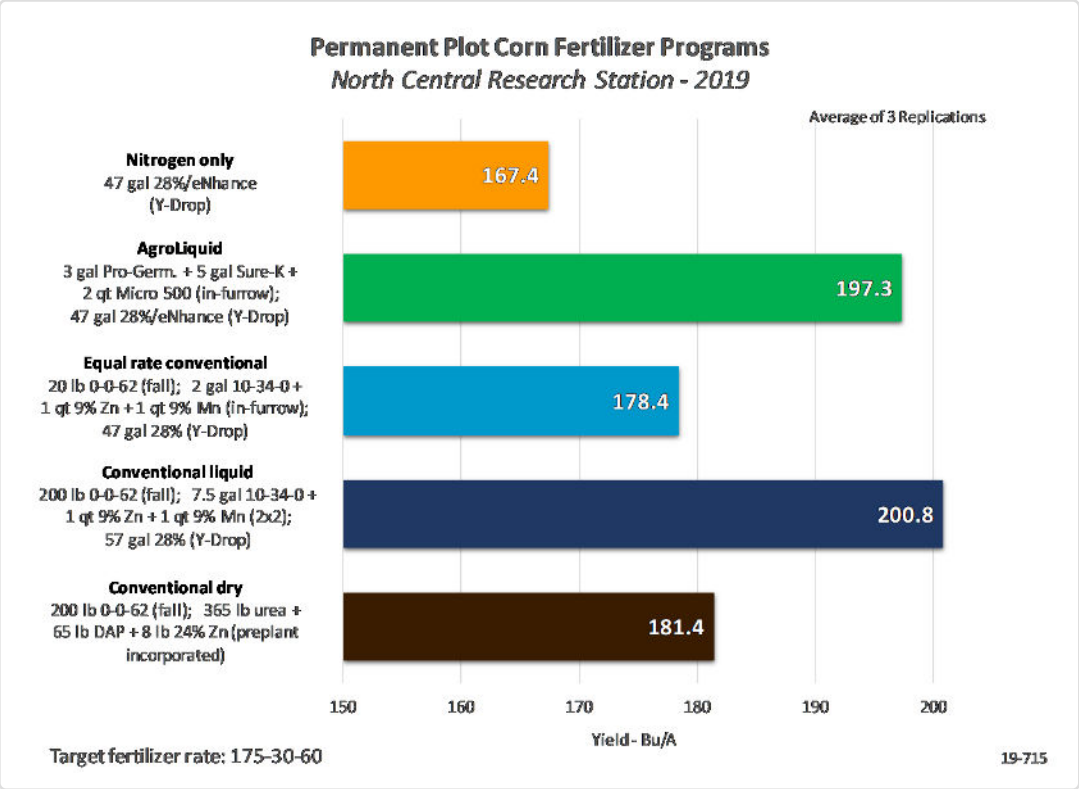
Experiment Info:	
Planted:	5/17/2019
Harvest:	11/08/2019
Yield Goal:	175 bu/A
Target Fert.:	175-30-60
Variety:	P9998M
Population:	32,000
Row Width:	30"
Prev. Crop:	soybeans
Plot Size:	15 x 210
Replications:	3

Soil Test Values (ppm):	
pH:	7
CEC:	12.4
%OM:	3.4
Bray P1:	25
Bicarb P:	
K:	111
S:	5
%K:	2.3
%Mg:	21.4
%Ca:	75.9
%H:	0
Zn:	1.5
Mn:	4
B:	0.7

Objective:

Compare fertilizer programs of different nutrient sources and rates for effects on corn yield.

AgroLiquid nutrients are promoted as being considerably more efficient than are conventional fertilizers which enables lower rates of nutrient application with similar or improved outcome. This is the ninth year of an experiment with corn and soybeans in rotation. Each treatment has a separate fertility program for corn and soybeans in the same plots year after year. This will not only test the validity of the programs in a single year, but also performance over time. There are two full-rate conventional programs, one is all dry and the other is part dry and part liquid fertilizers. The AgroLiquid program consists of a planter application of Pro-Germinator + Sure-K + Micro 500 at rates that are considered "equivalent" in performance to the conventional programs. Following normal farmer practice, the potash (0-0-62) is applied at a double rate every other year following soybean harvest. There is also a treatment of conventional fertilizers applied at Equal Rates of nutrients as are in the AgroLiquid Program to test efficiency differences of products. There is also a nitrogen only treatment to get a measure of the P, K and micronutrient applications.



LSD(0.1): 18.3; CV 8.2%:

Conclusions:

- The AgroLiquid program applies 157.5 pounds of primary nutrients per acre compared to 271 pounds in the conventional products. Yet there was no significant difference in yield between the AgroLiquid treatment and the Conventional liquid treatment.
- The total dry treatment yielded lower than that of the other two main programs. The wet early growing season followed by dry conditions likely hindered positioning of broadcast nutrients for optimum plant absorption.
- The reduced (Equal) application of conventional fertilizers resulted in a corn yield that was almost 20 Bu/A less than that of the AgroLiquid despite equal amounts of nutrients.